CLAIMS

1. A process to assist a second party in making a decision regarding the use of a stepper, the process including:

a first party receiving lens aberration information for the stepper;

the first party generating optical models using the lens aberration information; and

the first party allowing the second party access to the optical models, but not the lens aberration information, wherein the second party in performing a function with the optical models provides an output that facilitates the decision.

2. The process of Claim 1, wherein performing the function includes performing a simulation with particular mask data.

3. The process of Claim 1, wherein performing the function includes providing a calibrated model.

4. The process of Claim 3, wherein providing a calibrated model includes inputting at least one of chemistry and process information.

5. The process of Claim 3, wherein performing the function further includes performing a simulation with a test pattern.

6. The process of Claim 3, wherein performing the function further includes performing a verification with particular mask data.

7. The process of Claim 3, wherein performing the function further includes performing optical proximity correction checking with particular mask data.

8. The process of Claim 1, wherein the lens aberration information is encrypted and generating optical models using the lens aberration information includes decrypting the lens aberration information.

9. The process of Claim 1, wherein allowing the second party access to the optical models includes the second party using a server that stores the optical models.

10. The process of Claim 9, wherein the server is controlled by a third party, and allowing the second party access to the optical models includes the second party requesting access to the server.

11. The process of Claim 1, wherein allowing the second party access to the optical models includes providing a server controlled by the first party.

12. The process of Claim 1, wherein allowing the second party access to the optical models includes providing a client-server over a network.

13. A method of evaluating a stepper process, wherein lens aberration affects the stepper process, the method comprising:

receiving, from a facilitator responding to a request, a set of optical models including lens aberration information, wherein the lens aberration information is difficult to extract from the optical models; and

using the set of optical models to make a decision.

14. The method of Claim 13, wherein the decision includes determining from a plurality of steppers a subset of the plurality of steppers suitable for reproducing a mask pattern within a predetermined amount of permitted critical parameter variance.

15. The method of Claim 13, wherein the decision includes determining from a plurality of steppers a subset of the plurality of steppers suitable for reproducing a layout within a predetermined amount of permitted critical parameter variance.

16. The method of Claim 13, wherein the decision includes determining from a plurality of steppers a subset of the plurality of steppers suitable for reproducing mask data within a predetermined amount of permitted critical parameter variance in combination with at least one of a process and a chemistry.

17. The method of Claim 13, wherein the decision includes ranking a plurality of steppers based on mask data, the ranking indicating a preferred selection of steppers for a particular mask data.

18. The method of Claim 13, wherein the decision includes determining from a plurality of steppers a subset of the plurality of steppers that should be avoided for use with at least one of a mask, a layout, a process, and a chemistry.

19. The method of Claim 13, wherein the decision includes determining whether a mask is correctly made.

20. The method of Claim 19, wherein determining includes analyzing optical proximity correction (OPC) on the mask.

21. The method of Claim 13, wherein the facilitator receives compensation for the set of optical models.

22. The method of Claim 21, wherein a stepper company directly compensates the facilitator for the set of optical models.

23. The method of Claim 21, wherein a stepper company indirectly compensates the facilitator for the set of optical models.

24. The method of Claim 21, wherein a user compensates the facilitator for the set of optical models.

25. The method of Claim 13, wherein the facilitator receives Zernike polynomials from at least one stepper company, wherein the Zernike polynomials are used for generating the set of optical models.

26. The method of Claim 13, wherein the request comes from a user.

27. The method of Claim 26, wherein the user includes one of a mask customer, a wafer customer, mask shop, and a design company.

28. The method of Claim 13, wherein the request comes from a stepper company.

29. A method of a facilitator providing lens aberration information regarding a stepper to a user, the method comprising:

receiving lens aberration information regarding the stepper;

generating optical models using the lens aberration information, wherein the lens aberration information is difficult to extract from the optical models; and

providing the optical models to the user.

30. The method of Claim 29, further including receiving a request from the user for the optical models.

31. The method of Claim 30, wherein the user includes one of a mask customer, a wafer customer, a mask shop, and a design company.

32. The method of Claim 29, further including receiving a request from a stepper company for the optical models.

33. The method of Claim 32, wherein the stepper company forwards the optical models to the user.

34. The method of Claim 29, further including the facilitator billing based on each set of optical models.

35. The method of Claim 29, wherein the optical models include numerical aperture information and partial coherence factors.

36. The method of Claim 29, further including simulating mask data using the optical models.

37. The method of Claim 29, further including calibrating the optical models.

38. The method of Claim 37, wherein calibrating includes at least one of chemistry and process information.

39. The method of Claim 37, further including simulating a test pattern using calibrated optical models.

40. The method of Claim 37, further including verifying mask accuracy using calibrated optical models.

41. The method of Claim 37, further including analyzing optical proximity correction (OPC) on a mask using calibrated optical models.

42. The method of Claim 29, wherein the lens aberration information is encrypted and generating optical models includes decrypting the lens aberration information.

43. A mask used with a stepper, the stepper being selected based on a decision made by a user, the user following the steps of:

receiving, from a facilitator responding to a request, a set of optical models including lens aberration information, wherein the lens aberration information is difficult to extract from the optical models; and

using the set of optical models to make the decision.

44. An integrated circuit produced using a stepper, the stepper being selected based on a decision made by a user, the user following the steps of:

receiving, from a facilitator responding to a request, a set of optical models including lens aberration information, wherein the lens aberration information is difficult to extract from the optical models; and

using the set of optical models to make the decision.

45. A method of deciding to use a stepper with a particular mask, the method comprising:

identifying a set of potential steppers for use with the particular mask;

obtaining lens aberration information regarding each of the potential steppers;

determining a subset of the set of potential steppers suitable for reproducing a pattern of the particular mask within a predetermined amount of permitted critical parameter variance; and

selecting one of the subset of potential steppers to use.

46. The method of Claim 45, wherein selecting includes ranking the subset of potential steppers based on critical parameter variance and choosing a stepper having least critical parameter variance.

47. The method of Claim 45, wherein selecting includes determining the scheduling of the subset of potential steppers and choosing a first available stepper.

48. The method of Claim 45, wherein selecting includes ranking the subset of potential steppers based on critical parameter variance, determining the scheduling of the subset of potential steppers, and choosing a stepper, available within a

predetermined period of time, having least critical parameter variance.

49. A file used in selecting a stepper, the stepper for use with predetermined mask data, the file comprising:

a set of optical models, wherein the optical models include lens aberration information specific to the stepper, and wherein the lens aberration information is virtually inextricable from the optical models.

50. The file of Claim 49, wherein the lens aberration information includes decrypted polynomials.